



## **Bethel Services, Inc.**

*A subsidiary of Bethel Native Corporation*

June 23, 2004

United Utilities, Inc.  
5450 A Street  
Anchorage, AK 99518

Attention: Steve Hamlen  
Jill McLeod

**Re: Environmental Assessment Proposed Tower Site, Bethel, Alaska**

Dear Mr. Hamlen and Ms. McLeod:

Bethel Services Inc. has completed an Environmental Assessment (EA) in general compliance with the FCC NEPA rules (47 CFR 1.1211) for the United Utilities, Inc. tower site in Bethel. Our observations concerning the environmental conditions at the site are set out in the attached report.

Please do not hesitate to contact our office if you have any questions regarding this EA.

Sincerely,  
**BETHEL SERVICES, INC.**

Greg DuBois  
Senior Geologist

Enclosures

**ENVIRONMENTAL ASSESSMENT  
TELECOMMUNICATIONS TOWER SITE  
BETHEL, ALASKA**

For

**UNITED UTILITIES, INC.**

Presented By

**BETHEL SERVICES, INC.**

*A subsidiary of Bethel Native Corporation*



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**ENVIRONMENTAL ASSESSMENT  
OF THE UNITED UTILITIES, INC.  
PROPOSED TELECOMMUNICATIONS TOWER SITE  
BETHEL, ALASKA**


Prepared by:

Bethel Services, Inc.  
Post Office Box 110512  
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Job No. 2004015

June 2004

Prepared by:

  
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Greg DuBois  
Project Manager

Date:

6/23/04

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## ***Acronyms and Abbreviations***

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AC&WS	Aircraft Control and Warning Site
ADNR	Alaska Department of Natural Resources
AHRS	Alaska Heritage Resources Survey
BBi	Bethel Broadcasting, Inc.
BIA	Bureau of Indian Affairs
BSI	Bethel Services, Inc.
CFR	Code of Federal Regulations
EA	Environmental Assessment
ERP	Equivalent Radiated power
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
PCBs	Polychlorinated biphenyls
USF&WS	United States Fish & Wildlife Service
UUI	United Utilities, Inc.

## **1.0 Introduction**

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Bethel Services, Inc. (BSI) completed this Environmental Assessment (EA) for United Utilities, Inc. (UII) for the proposed installation of a 221 foot telecommunications tower to be situated in Bethel, Alaska. The tower is planned to be part of a telecommunications network in the Yukon-Kuskokwim Delta region. The proposed network is to provide broadband internet services and telemedicine services to the villages served by the network. Bethel is the proposed hub of the network and is therefore critical to implementation of the internet and telemedicine services. Figure 1 in Appendix A shows the location of Bethel; Figure 2 depicts the project site location in Bethel. The objective of the EA was to determine if construction and use of the tower will have a significant impact on the environment and/or historic preservation.

This EA was conducted in accordance with Code of Federal Regulations (CFR) Title 47, Volume 1 Section 1.1307 which specifically regulates activities within the jurisdiction of the Federal Communications Commission (FCC).

There are eight actions that require an EA under these regulations:

1. Facilities that are to be located in an officially designated wilderness area;
2. Facilities that are to be located in an officially designated wildlife preserve;
3. Facilities that may affect listed threatened or endangered species or designated critical habitats or are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats, as determined by the Secretary of the Interior pursuant to the Endangered Species Act of 1973;
4. Facilities that may affect districts, sites, buildings, structures or objects, significant in American History, architecture, archaeology, engineering or culture, that are listed , or are eligible for listing, in the National Register of Historic Places;
5. Facilities that may affect Indian religious sites;
6. Facilities to be located in a flood plain;
7. Facilities whose construction will involve significant change in surface features (e.g. wetlands fill, deforestation or water diversion); and

8. Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning laws. In addition, commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the preparation of an EA if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency radiation in excess of the limits in Sections 1.130 and 2.1093 of Chapter I.

The US Corps of Engineers determined that the site is located in a wetland. Construction will include filling a small area (0.4 acres) of the wetland with sand and gravel, thereby requiring an EA.

### ***1.1 Community Information***

The site is located within the municipality of Bethel, Alaska. Bethel is located near the mouth of the Kuskokwim River approximately 40 miles east of the Bering Sea. Bethel's population is approximately 6,000 and is comprised of 43.8 square miles of land. Bethel is a regional hub for 56 surrounding villages in the Yukon-Kuskokwim delta. Historically, Bethel began as a small native village of 41 people according to the US 1880 census and was incorporated in 1957. As a regional hub it contains many government agencies. Approximately fifty percent (50%) of the jobs in Bethel are government jobs.



## **2.0 Site Information**

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The proposed tower site location was visited by senior geologist Greg DuBois, the BSI project manager for this EA. The site is located within the boundaries of Bethel Broadcasting Inc.'s (BBI) property, and is more particularly described as the KYUK Lease Lots, Parcel A, Tracts 47 & 49, situated within Sections 14 & 15, Township 8 North, Range 72 West, Seward Meridian, Alaska, within the Bethel, Alaska Recording District. A copy of the survey for the proposed tower site is attached in Appendix A, Figure 3. UUI is leasing the property from BBI. The latitude and Longitude are 60-46-53.78 NAD 83 and 161-53-1.57. The site elevation is approximately 159 feet above mean sea level. Appendix B shows photographs of the site.

### **2.1 Current and Historic Uses**

Currently, the site is vacant. There are no visible signs that the site has been used for any other purposes. However, BBI, which operates the local radio station in Bethel (known as KYUK), Alaska, has an approximately 220 foot high AM radio transmission tower on its property next to this site (see photographs, Appendix B). A road adjacent to the site is called the BIA Access Road and was originally used as access to a White Alice Communication site owned by the US Air Force. The White Alice Site has been demolished except for one large troposphere communications antenna. The White Alice site is currently being used to remediate fuel contaminated soil from a Bureau of Indian Affairs fuel release. In addition, there is a permitted landfill at the White Alice site. The landfill contents include three asbestos cells and building debris from the former White Alice facilities, and polychlorinated biphenyl's (PCBs) contaminated soil. The Air Force has indicated that they believe they will own this property in perpetuity due to the buried hazardous waste at this location.

### **2.2 Site Visit June 8, 2004**

Mr. DuBois visited the site on June 8, 2004. The site consists of tundra with underlying permafrost approximately 1 to 2 feet below ground surface. Occasionally there are small pockets of water (1 foot diameter) on the ground surface. Cotton grass and Labrador Tea, both commonly found in wetland areas, were observed at the site. Blueberry plants were also observed. Several boreholes had been advanced recently at the site and were covered with orange pylons. Photographs from the site visit are provided in Appendix B.

## **2.3    *Neighboring Properties***

The surrounding property in the vicinity of the site is owned by BBI, the US Fish and Wildlife Service (USF&WS), the US Air Force, and Bethel Native Corporation. (See Appendix A-Figure 2.) There are various native allotment properties nearby, but not directly adjacent to, the site. Surrounding the BBI property (within which the proposed site is situated) and to the east, west, and south is land owned by Bethel Native Corporation. Immediately north of the BBI property USF&WS took possession of a property, including a large burned out building, that was formerly owned by the BIA (and known as the BIA Administrative Site). Road access to the project site is through the USF&WS property, which is secured with a locked and chained gate. Approximately 300 feet from the site to the south is the White Alice Site, owned by the Air Force (previously described). The closest residential development is approximately one half mile south of the site.

## **2.4    *Zoning***

The site is not zoned.

## **2.5    *Community Issues and Site Selection***

There is already a large tower in the vicinity and there are no known community issues related to adding another tower at essentially the same location. There are no known environmental concerns about the existing KYUK tower location, or the AM radio tower itself. Due to the network design and the ability to offer proper transmission coverage, there was an extremely small area within Bethel that UUI could consider for potential tower sites for the Bethel hub. The tower had to be located in the general vicinity of the airport due to the technical requirements for the system, and accordingly there was limited flexibility by the FAA. The FAA directed the exact location of the proposed site. The proposed site for the tower is considered to be the most suitable location that has good access and that will have little or no negative affect on the local community.

## **2.6    *Construction Plans***

Construction plans are provided in Appendix C. The plans show that a gravel driveway and pad area will be constructed on the site. The total planned areal extent of the pad and driveway is 18,040 square feet or 0.414 acres. On the pad will be a tower and an equipment building. The driveway will be 25 feet wide and approximately 40 feet in length. The pad area where the building will be placed will be approximately 60 feet by 84.2 feet. The tower pad area will be approximately 100 feet by 120 feet. The driveway and the building pad will have a 12 inch sand base placed on the native vegetation, topped by an 8 inch layer of gravel. The building will be

wood construction on a steel skid and placed on top of driven steel pilings. The pilings will be driven approximately 25 feet below grade.

The tower pad area will have a 12 inch base layer of sand, with 6 inch blue foam boards placed on top of the sand, followed by an 8 inch layer of gravel. The blue foam board is being placed there to prevent potential thawing of the underlying permafrost. The tower has 4 legs. Each leg will have the support of 4 pilings. Each piling will be driven to a depth of approximately 41 feet below grade. Next to each piling a thermistor will be installed to monitor freeze back and pile performance. The height of the self-supporting tower is planned to be 221 feet.

The building and tower pad will be secured with a 6 foot high chain link fence with barbed wire, and the enclosed area will be locked to prevent public access.

### **3.0 Compliance Review**

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BSI completed this EA in accordance with 47 CFR 1.1307. In this section we are presenting our findings in the order described in the regulations.

- 1. Officially Designated Wilderness Areas** – The proposed site is privately owned by the property owner, BBI. Based on a review of the USF&WS Yukon Delta National Wildlife Refuge and Wilderness Areas map in Appendix D, the site is located within the City of Bethel, and is not located in an officially designated wilderness area. As stipulated earlier, this site is located within an area on which a 300 foot tower currently exists.
- 2. Officially Designated Wildlife Preserve** – Based on a review of the Cenaliulriit CRSA & City of Bethel Coastal Management Districts map (see Appendix D), the site is located within the City of Bethel, Alaska, and is not in a designated wildlife preserve. The area within the City of Bethel boundary is not part of the Yukon Delta National Wildlife Preserve.
- 3. Listed/Endangered Species** – Based on information obtained from the USF&WS website, there was no evidence of listed threatened or endangered species or designated or proposed critical habitats at the subject site. Doug Slater of the USF&WS stationed in Bethel indicated in an e-mail dated June 10, 2004 that there are no endangered or threatened species in the subject area that will be affected by the proposed project. A copy of an email from Mr. Slater is provided in Appendix D. Therefore, the proposed UUI development will have no effect on any endangered or threatened species or critical habitats.
- 4. Historical Properties/Cultural Resources** – On June 4, 2004, Mr. DuBois visited the State of Alaska Department of Natural Resources, Office of History and Archeology, State Historic Preservation Office (SHPO) to review the Alaska Heritage Resources Survey (AHRs) regarding the location of documented historical and archeological sites in the Bethel area. Mr. DuBois also searched the National Register of Historic Places on the National Register Information System database available on the National Park Service's website. Only one historic property located in the City of Bethel is listed on the National Register, namely the First Mission House situated at 291 Third Avenue, Bethel. The First Mission House is situated more than 4 miles from the proposed tower site in

Bethel. There are two existing towers (both of which are more than 200 feet high) situated within one mile of this historic property in Bethel. A copy of the National Register report is attached in Appendix D. On June 23, 2004 SHPO determined that the proposed development at the site would not impact any cultural resources. The SHPO determination is provided in Appendix D.

- 5. Religious Sites** – The visit to the ADNCR and review of the AHRs did not indicate the presence of any religious sites in this area. Mr. DuBois questioned Mr. Marc Stemp, the President of Bethel Native Corporation (BNC), the local village corporation and tribal entity that owns most of the land in the vicinity of the site in regards to Indian religious sites at or near the proposed tower site. Mr. Stemp indicated that BNC was not aware of any environmental or cultural concerns regarding the site or placement of the antenna. Mr. Darren Lieb, a local resident was questioned in regards to native religious sites and he was not aware of any in the Bethel area except for local churches. On June 15, 2004, Mr. Ricky Hoff, an archeologist employed by the BIA, advised UUI that Bethel in general has a low potential for Indian religious sites. He indicated that Bethel is not an area of concern for the BIA with regard to religious sites. BSI's field assessment did not reveal any signs of an Indian religious site and it is not likely that Indian religious sites will be affected by the tower construction.
- 6. Floodplains** – The City of Bethel Planner's office was contacted regarding floodplain issues. Mr. John Malone, the Planning Director for the City of Bethel, reviewed the site location in reference to the Federal Emergency Management Agency (FEMA) National Flood Insurance Program panel for the Flood Insurance Rate Maps (FIRM) for Bethel, community number 020104, published February 15, 1985. Mr. Malone indicated that the subject site is not in a special hazard flood zone. He indicated that this site is actually not mapped within the Bethel area panel, however, the floodplain elevation for Bethel is designated as 17.1 feet. The subject site is at an elevation of approximately 159 feet above mean sea level and is therefore not within the local floodplain. A copy of information provided at the US Army Corps of Engineers website concerning floodplains which corresponds with the information provided by the Bethel City planning office is presented in Appendix D. Email communication between the City of Bethel Planner's offices confirming that the site is not located in a flood plain is attached in Appendix D.
- 7. Surface Features** – The National Wetlands Inventory Maps were reviewed but the Bethel area has not been inventoried and/or included in the map of Alaska (attached Appendix D). Ms. Mary Leykom with the Regulatory Branch, US Army Corps of

Engineers (USACE) in Anchorage, Alaska, was contacted. Ms. Leykom indicated that in general, all of Bethel is considered a wetland but a specific determination for that site had not yet been conducted. Ms. Leykom later visited the site on June 15, 2004 and made a determination that the site is located in a wetland. Fill material will be placed on the wetland area as part of the construction process. On June 4, 2004, UUI applied for approval from the USACE to use Nationwide Permit #12, for the placement of fill in a wetland. On June 17, 2004, the USACE granted UUI permission to use NWP #12 to place the fill material in the wetland and permitting the construction of the tower at the proposed site. A copy of the authorization from USACE is attached in Appendix D.

8. **Tower Lighting** –High intensity white lighting will not be used at the proposed tower location. The FAA stated in a letter issued February 3, 2004 that the tower does not require lighting related to FAA regulations and is not considered a hazard to air navigation (Appendix D). However, UUI is planning to install standard lighting in accordance with FAA regulations.
9. **Radio Frequency** — Mr. Alex Leavens of UUI reviewed FCC Bulletin 65: “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields” Appendix A, Table 2. He indicated that a radio frequency evaluation was not required because the antennas on the tower will not be located less than 10 meters (32.8 feet) above ground level, and, the power output at the site will be less than 10 kilowatts equivalent radiated power (ERP) power in the direction of the emissions. As the tower will be a 221 foot, self supporting tower, and no antennas will be located less than 10 meters above the ground and the power signal will be low, excess radiation exposure does not appear to be an environmental concern at this site. In addition, the site will be fenced to prevent access to the operations building or the tower itself.



## **4.0 *Conclusions and Recommendations***

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BSI recommends a Finding of No Significant Impact (FONSI) based on the results of this EA. Although the site is located within a wetland, the USACE has approved the site to be filled under the Nationwide Permit #12 and the proposed tower, pad and equipment building are to be constructed in a manner that will not have significant impact on the environment. The fact that another tower is in close vicinity to the project site indicates that this is an appropriate location for this tower. Based on this information, the preparation of a FONSI order is recommended to allow the development of this site without further environmental analysis.

The benefits to the local community in Bethel as well as many other villages to have improved communications through this internet and telemedicine network in this remote section of Alaska cannot be over stated.

## **5.0 *References and Information Sources***

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Federal Communications Commission 47 CFR, Chapter 1.1301-1.1319

Federal Aviation Administration

US Fish and Wildlife Service, Bethel, Alaska

Alaska Department of Natural Resources

Alaska Historic Register Survey

Federal Emergency Management Agency information at web site:

[http://www.poa.usace.army.mil/en/cw/fld\\_haz/bethel.htm](http://www.poa.usace.army.mil/en/cw/fld_haz/bethel.htm)

United Utilities, Inc.

Darren Lieb, Resident of Bethel Alaska

Bethel Native Corporation

City of Bethel, City Planner's Office

Alaska Department of Community and Economic Development at web site:

<http://www.dced.state.ak.us/dca/commdb/CIS.cfm>

National Register of Historic Places, National Register Information System database, National Park Service's website: <http://www.cr.nps.gov/NR/>

## ***Limitations***

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The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report